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## ABSTRACT

This guide provides practical ideas for incorporating the concept of voluntary simplicity into home economics classes. Discussed in the first chapter are the need to study voluntary simplicity, its potential contributions to home economics, and techniques and a questionnaire for measuring student attitudes toward the concept. The remaining chapters contain suggested classroom techniques and learning activities for use in incorporating the concept of voluntary simplicity into the following topics typically addressed in home economics courses: housing (energy use in the home, orientation of a home to the sun, and natural ways to warm and cool a home); foods and nutrition (energy use in cooking and food production, consideration of complementary proteins in food selection, and energy efficiency in the kitchen); clothing and textiles (dressing to keep warm or cool, extending the life of clothing, managing energy in clothing care and through window treatments, and selecting accessories for the home); and interpersonal relations (exploring life-styles, contributing to one's community, and helping and cooperating with others). Concluding the guide are lists of resource films and filmstrips, magazines and guides, vegetarian cookbooks, and organizations. (MN)

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# Voluntary Simplicity: A Lifestyle Option

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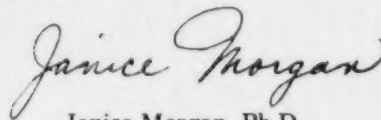
- ... Allie E. Ferguson, former Program Director for Home Economics in Florida, who supported the production of the original curriculum guide, *Integrating Voluntary Simplicity into Home Economics*.
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# FOREWORD

The achievement of simplicity in a complex society is a difficult art, yet is a lifestyle option that needs consideration. Ruth Pestle's suggestions for living with voluntary simplicity draw their roots from Thoreau at Walden Pond and Gandhi's lifestyle in India. This concept is consistent with the philosophy of home economics since our beginnings with Ellen H. Richard's statements regarding lifestyle. Pestle deals with the concept of voluntary simplicity as it relates to housing, foods and nutrition, clothing and textiles, and interpersonal relations in today's world. She further suggests resources such as films, filmstrips, magazines, guides, books and organizations which offer further exploration of this way of life.

In this monograph you will find suggestions for ways that home economics educators may use concepts and techniques of the voluntary simplicity movement which are thought provoking. Ruth Pestle offers many practical and interesting ways of incorporating the concept within various home economics classes. Many of her suggestions and activities could lead to individual values clarification and decision making which would also provide the opportunity for critical thinking among your students.

The Home Economics Education Association executive committee and publications committee are indebted to Ruth Pestle for her time and effort expended in the preparation of this monograph. We hope that you will find it useful, beneficial and stimulating.



Janice Morgan, Ph.D.  
HEEA President, 1983-1985

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# I. VOLUNTARY SIMPLICITY — A LIFESTYLE OPTION

## THE CONCEPT OF VOLUNTARY SIMPLICITY

Voluntary simplicity is a lifestyle which people choose to adopt freely. If one is temporarily out of work or has another problem which forces them to live much more simply, then there is nothing voluntary about the choice.

Simplicity of lifestyle implies movement away from the complexities of consumerism and a highly technological style of living with dependence upon cars, appliances, and other machines. Rather, such matters as conservation of nature and energy, recycling, home production of foods, and sharing of skills are taken into consideration.

Voluntary simplicity is not a new concept. The way Thoreau lived at Walden Pond and the way Ghandi lived in India illustrate the concept. An early reference to voluntary simplicity and a description of it by Richard Gregg appeared in the Indian journal, the *Visva Bharati Quarterly*, in 1936. More recently, Duane Elgin has published the book *Voluntary Simplicity: Toward a Way of Life that is Outwardly Simple, Inwardly Rich* (1981).

The concept should not be confused with the "back to nature" movement of the 1960's. Even though there are similarities, voluntary simplicity goes beyond that movement, giving ethical bases for responses to our changing environment. These responses do not require anyone to move back to an agrarian lifestyle. Rather, it is possible for people to adapt their lives to live simply in urban and city dwellings just as well as anywhere else.

In all fairness, it should be noted that some practices of previous generations were the epitome of voluntary simplicity. Older people who lived through the Depression of the '20's lived such lifestyles, for example, but not voluntarily (Cornille, Oransky, and Pestle, 1969). In contrast, the Nearings illustrate conscious adoption of simplistic values today, in the film "Living the Good Life" (Bullfrog Films, 1977).

## THE NEED TO STUDY VOLUNTARY SIMPLICITY NOW

In recent years, we have been aware of the fact that we live in a world with limited resources. The most noticeable reminders of this fact were the days when "blackouts" and "brownouts" occurred from lack of electricity in the New York City area, when cars were lined up at the gasoline pumps for purchasing limited amounts of gasoline, and when once rushing rivers in the southeastern United States dwindled to small streams as dry farmlands were irrigated. When a lighted match could set fire to such a mighty river as the Cayuhoga, in Cleveland, Ohio, it became quite evident that pollution had come to some kind of limit. Conservationists began to keep track of the amount of sulfuric acid in the rain falling from the sky, realizing that acid rain had a cumulative negative effect on living things. Even clean air became an important issue, an item which was measured, tabulated, and found to be related to levels of lung disease and other body conditions.

Naturally the concern for one's environment takes different forms, due in part to the differences in the geographic composition of the particular place in which one resides, the need for the nation to be energy-independent of other countries, and the constant development of new businesses and technologies. Recently futurists, people who persist in looking ahead in time, have been focusing our attention on the fact that we live in an increasingly interdependent world. They remind us that the pollutants we dump in our rivers and oceans end up on others' shores, sometimes soon, and often with long-term effects. In ridding ourselves inexpensively and quickly of unwanted wastes, we may, for example, have ruined others' drinking water supply for years to come. Thus, futurists bring us back full circle to the question, "Am I my brother's keeper?", especially when my "brother" lives miles and years away from me now.

Let us assume that we do not encourage students to consider voluntary simplicity as one optional lifestyle. Suppose we continue to live as many of us do now. We let water go to waste from dripping faucets; we dump chemical wastes near wells and underground aquifers; we each build a swimming pool as soon as our income permits. Will there be abundant pure water forever? Maybe none of these actions spell immediate disaster, but together, in time they could result in a problem.

Why not assume our leaders know best and say that all we need to do now is be law-abiding citizens? Why upset the status quo by asking if present town and city ordinances are adequate? Why not let the leaders worry about issues such as clean air and water? The question remains, do the leaders know? Do they agree? Do they care? Should citizens express their concern about working out policies and procedures between businesses and municipalities so that both economic growth and environmental protection occur over the coming years? Can we just assume that our leaders at each level of government have these concerns?

Exactly what type of world do we wish to leave for coming generations? What help can we give to those generations to help them answer the questions? The questions are not simple ones. Neither will the answers be simple. The issue deserves thought and effort from all of us.

In 1980 the *Global 2000 Report* was released. It was prepared under the direction of the Council on Environmental Quality and the United States Department of State. It predicted that in the year 2000 the world would be more polluted, more crowded, less stable and more vulnerable to disruptions in the supply of natural resources than the world today.

Herman Kahn, Director of the Hudson Institute in New York, has given projections for the future which conflict with those of the *Global 2000 Report*. Kahn (1979) believes that if present trends continue, the world will be less crowded, less polluted, more stable ecologically, and less vulnerable to resource-supply disruption than the world in which we now live.

Obviously, these predictions were done at different times by different people. One is left wondering, who is correct? The questions remain, can we continue to increase birth rates; increase consumption of electricity generated by coal, oil, or atomic energy; and increase pollution of air and pure water and have the same world years from now? The debate goes on, raising everyone's collective consciousness about the dangers of short-term solutions and making people more aware of the longer-range implications of their actions. People have to act pragmatically in relation to present problems, but they still have the choice of considering just the immediate results of their actions, or both the long-range and the immediate results (Naisbitt, 1982).

Sometimes a governmental body, such as a state, must act to create and enforce policies concerning disposal of hazardous waste and protection of groundwater quality. But without public support, laws are less effective than when the populace believes in their importance and willingly complies.

Individuals have to become aware of problems in time to help pass laws and to support their enforcement before they encounter situations such as finding their *own* well or drinking water contaminated. Given an opportunity to consider the issues, individuals can and do make choices that have the effect they desire. Time spent considering these issues can help each individual make rational, informed decisions in the years to come.

## POTENTIAL CONTRIBUTIONS OF HOME ECONOMISTS

Although the term "futurist" was not used as commonly at the turn of the century when the profession of home economics emerged, Ellen Richards, the founder of home economics, certainly fits the definition well. In her early work to ensure pure drinking water and food, and in her efforts to improve the quality of family life, Mrs. Richards set the tone and the task of the home economics profession (Hunt, 1958).

If home economists are *not* aware of the possible long-term as well as short-term effects of world conditions upon families, why do we take time to lobby legislatures in the many ways we do? Why do we ask students to weigh alternatives in thinking about various options as they look ahead to setting up homes and families? Home economists are well aware that just as no one description fits the word "family" anymore, no one lifestyle fits all forms of families all over the world.

Home economists assist families in all stages of the lifecycle. For example, we become parts of social networks supporting individuals in times of crisis, such as instances of child neglect when parents need new parenting skills. As professionals, home economists work to improve the quality of family life in the present and the future, assisting people in understanding factors which can diminish the quality of family life. But as a profession, home economists have to convince others that we are futurists who know that we are living in the period of the parentheses, meaning the time of rapid change as noted by Naisbitt (1982).

## VOLUNTARY SIMPLICITY AND LIFESTYLES

People may choose to practice the voluntary simplicity lifestyle in differing ways depending on their circumstances. The lifestyle consists of self-determination, ecological awareness, material simplicity, and practical living and working environments. The following examples illustrate these factors.

### A LIFESTYLE OPTION

The Smiths, Barbara and John, are a young couple living in a mobile home park. Although able to afford a car, they ride the bus to work and their bicycles to other places. They even walk for the fun of it. They share a lawnmower, washer/dryer, and vacuum cleaner with others in the park. In exchange for rides, John sometimes repairs plumbing or Barbara will babysit.

### A LIFESTYLE OPTION

Susan is a high school teenager. She heard about the oil shortages from her parents and became concerned about the use of natural resources. Acting on her concern, Susan is more careful lately to shut doors when heat or air conditioning is on. In summer, she wears less clothing rather than adjusting the thermostat. In winter, she puts on another layer of clothing while indoors. Her biggest adjustment was deciding to bathe in sequence with other members of her family, rather than whenever she felt like it. Thus water would not be wasted by drawing and discarding the cold water coming out of the hot water faucet every time someone took a bath. Although only a small effort, this changed personal habit has a large cumulative effect over time.

### A LIFESTYLE OPTION

Jean is a single young adult who works as a bookkeeper in a car dealership. Jean lives in a small upstairs apartment. Lately, Jean has become concerned about the quality of air, having read about asbestos and coal miners' lung problems. After consulting with other workers, Jean put the free "Thank You For Not Smoking" signs from the American Cancer Society on her apartment door, in her car, and on the door to the bookkeeping room at work. By starting earlier, Jean now walks to church rather than driving a car. Jean saves skins and parings from vegetables (which are biodegradable) and puts them on her landlord's garden. Her landlord gives her vegetables in exchange.

### A LIFESTYLE OPTION

Mrs. Parker, a widow who lives alone, now closes off rooms not needed in her old home. She recycles aluminum cans, newspapers, old clothes, and even her old lawnmower for used parts. Brought up to "waste not, want not," she believes that letting a faucet drip or drafts to occur around a window are sheer folly. Time is the commodity she is rich in now. She shares her time by reading to blind people and writing letters for them. She says, "they give me lots in return for my small gift of time."

For many reasons, these people have adjusted their lifestyles differently. Some choose to emphasize one aspect of voluntary simplicity (recycling, sharing, environmental concern) over another. Yet all, in their way, are acting with concern for the future of spaceship earth.

## STARTING TO THINK ABOUT VOLUNTARY SIMPLICITY

### Measuring Attitudes Toward Voluntary Simplicity

To get students started thinking about voluntary simplicity, two activities are given. One is an attitude scale. The other involves thinking about one's habits. These ideas can serve to help students to focus on the fact that habits make up lifestyles. Students will also begin to see that many different habits can be part of the lifestyle called voluntary simplicity, with no two people probably choosing to live the lifestyle in exactly the same way.

The attitude questionnaire reproduced on the following pages has been shown to have predictive validity; that is, to more often predict the attitudes of those living voluntarily simple lifestyles than the lifestyle of those living in more affluent manners (Pestle, Cornille, and Solomon, 1982). The scale's reliability has been tested by having people take it a second time and then comparing their two scores. These test-retest scores have been shown to be consistent.

The attitude questionnaire can be completed as fast as a person can read. Given the scoring directions, one can then score the instrument and see him/herself in relation to the total group present.

### Scoring Directions for Voluntary Simplicity of Lifestyle Questionnaire

This attitude questionnaire on the following pages includes 52 items designed to measure people's attitudes about voluntary simplicity concepts. The scoring method is a three step process, as follows:

a) Add together the circled responses from items:

|    |    |    |    |    |
|----|----|----|----|----|
| 1  | 12 | 20 | 30 | 43 |
| 6  | 13 | 21 | 32 | 45 |
| 7  | 14 | 23 | 33 | 47 |
| 8  | 16 | 24 | 34 | 49 |
| 9  | 17 | 26 | 36 | 50 |
| 10 | 18 | 28 | 38 |    |
| 11 | 19 | 29 | 41 |    |

b) Add together the circled responses from items:

|    |    |    |    |
|----|----|----|----|
| 2  | 25 | 40 | 52 |
| 3  | 27 | 42 |    |
| 4  | 31 | 44 |    |
| 5  | 35 | 46 |    |
| 15 | 37 | 48 |    |
| 22 | 39 | 51 |    |

c) Subtract the total of (b) from the total of (a).

The remainder is the attitude questionnaire score. *The higher the score, the greater is the person's agreement with voluntary simplicity attitudes.*

# VOLUNTARY SIMPLICITY OF LIFESTYLE ATTITUDE QUESTIONNAIRE

by

Ruth Pestle, Thomas Cornille, Karol Solomon

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Name \_\_\_\_\_

Please respond to the following statements using this format: Circle the number to the right of each statement according to how you feel.

MARK: 1 — for strongly disagree (SD) 3 — mildly disagree (MD) 5 — for mildly agree (MA)  
2 — for disagree (D) 4 — for undecided or no opinion (UND) 6 — for agree (A)  
7 — for strongly agree (SA)

Circle *only* one number for each statement.

|                                                                                                 | SD | D | MD | UND | MA | A | SA |
|-------------------------------------------------------------------------------------------------|----|---|----|-----|----|---|----|
| 1. Combining errands to save gasoline is important.                                             | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 2. Gardening is too dirty for me.                                                               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 3. I would much rather pay for something new than to use something old over again.              | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 4. The most important purpose of a job is to earn money.                                        | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 5. I don't care much about growing my own foods.                                                | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 6. Reducing water pollution is beneficial for almost everyone.                                  | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 7. I like the taste of food that has been home grown better than food from a grocery store.     | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 8. I am concerned that what I buy will last a long time and need few repairs.                   | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 9. More people should be involved in the protection of our environment.                         | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 10. I really like the idea of growing what I eat.                                               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 11. I am concerned about human rights in other nations.                                         | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 12. Even if it's hard work, I would like to grow some of my own foods.                          | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 13. If I were to move, one important consideration would be the quality of air in the new area. | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 14. It is my responsibility to recycle used things.                                             | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 15. Improving the insulation in a house is not worth the trouble.                               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 16. I grow my own foods.                                                                        | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 17. The people who run factories should be more concerned about pollution.                      | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 18. Saving electricity is of benefit to everyone.                                               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 19. I would rather grow some of my own vegetables than buy them all at the store.               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |

|                                                                                         | SD | D | MD | UND | MA | A | SA |
|-----------------------------------------------------------------------------------------|----|---|----|-----|----|---|----|
| 20. Planting fruit trees is a good idea.                                                | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 21. I would like to spend some of my spare time learning about growing my own foods.    | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 22. The more buttons a blender has, the better it is.                                   | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 23. If I have to travel less than one mile I walk or ride a bike rather than drive.     | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 24. I save scrap paper for future use.                                                  | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 25. Cars over five years old are not worth the trouble of upkeep.                       | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 26. It is my responsibility to recycle used goods.                                      | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 27. If I had a choice, I would buy a new car rather than a used one.                    | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 28. I use public transportation whenever I can.                                         | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 29. Growing my own vegetables would be worthwhile.                                      | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 30. It seems like a good idea for more than one family to use the same washing machine. | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 31. I would rather drive my own car, than depend on others for a ride.                  | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 32. Riding a bike or walking to school (work), rather than driving is a good idea.      | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 33. I grow my own fruits and vegetables.                                                | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 34. I can think of many ways to reuse trash and garbage.                                | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 35. The more money I make this year, the happier I'll probably be.                      | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 36. Recycling should be practiced by everyone.                                          | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 37. I don't like buying clothes that aren't new.                                        | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 38. It is very important to eliminate unnecessary trips in one's car.                   | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 39. Growing my own vegetables would be too much work.                                   | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 40. The most important purpose of a job is to earn money.                               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 41. If I had a choice, I would dry my clothes on a line rather than in a clothes dryer. | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 42. I feel better about myself when I wear new clothes.                                 | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 43. I carpool.                                                                          | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 44. Reusing fabrics accomplishes nothing worthwhile.                                    | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 45. I think collecting newspapers is a good idea.                                       | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 46. The most important purpose of a job is to earn money.                               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 47. I am willing to be paid for something with exchange of services instead of money.   | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 48. To me, finding new uses for discarded things is not worth my trouble.               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 49. On a cold day, I would rather put on a sweater than turn up the heat.               | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 50. I think it is important to drive within the speed limit to help conserve gasoline.  | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 51. I never worry about the usefulness of what I throw away.                            | 1  | 2 | 3  | 4   | 5  | 6 | 7  |
| 52. Canning and preserving my own foods would take too much of my time.                 | 1  | 2 | 3  | 4   | 5  | 6 | 7  |

## Changing Habits Activity

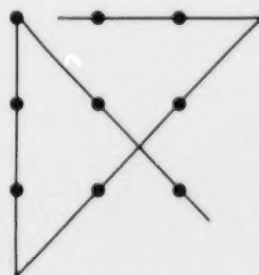
Changing lifestyles involves changing habits. There are many internal and external factors which hinder creative changes of old habits. One of these is the habit which prevents people from looking at problems and situations with a creative, new approach. The following experience can be used in class to illustrate this idea. The activity first appeared in *Penney's Forum* (Fall/Winter 1973). It was originally developed by Sidney Parnes for the J.C. Penney Company. It is duplicated with permission.

Without removing a pencil from the page, draw four straight lines connecting all nine dots and going through each dot only once.



Try it several times in different ways. Ask, "What assumptions did you make about how the problem had to be solved?"

Solution:



As a follow-up to this activity, list practices on a chalkboard which do and do not illustrate voluntary simplicity. Mix them up. Then, ask students to a) classify them into two groups illustrating the concepts, and b) to add 3 more which they believe belong in each list. Discuss why people do or do not carry out voluntary simplicity practices. Below are examples of practices which might go in each list.

### Voluntary Simplicity Practices

1. Carpooling
2. Gardening
3. Using shopping lists
4. Using leftovers
5. Bringing your lunch
6. Recycling clothes, food, household goods
7. Returning bad merchandise
8. Using protein alternatives
9. Storing food properly
10. Using the clothesline
11. Swapping services with other people
12. Conserving energy on the job

### Not Voluntary Simplicity Practices

1. Buying groceries at a "quick market"
2. Leaving lights on
3. Boiling one egg in a large pan
4. Using the oven to toast a slice of bread
5. Using the dryer to dry only one pair of jeans
6. Constantly opening the refrigerator
7. Boiling water in an open pan instead of a closed container
8. Using the oven to heat up the kitchen
9. Letting water run when brushing your teeth
10. Throwing away used clothes
11. Throwing away used newspapers

## II. INTEGRATING VOLUNTARY SIMPLICITY INTO HOUSING

Many opportunities exist to integrate the teaching of voluntary simplicity of lifestyle into the housing area. The following concepts are especially appropriate to emphasize in this area:

**Active Solar Energy:** Use of the energy of the sun by operating pumps or fans to move and store air or water which has been heated by the sun.

**Caulking:** Stopping up cracks in window and door frames with a filler.

**Electrical Usage Peaks:** Periods of time during which the power company must increase its production of electricity to meet the heavy demand from customers.

**Energy Efficiency Ratio (E.E.R.):** An expression of how efficiently an appliance uses electricity. It is computed by dividing the BTU's per hour generated by an appliance by the watts of electricity used. The higher the E.E.R. the more efficient the appliance, and the lower the cost of operating it.

**Fossil Fuels:** Naturally occurring fuels such as petroleum, coal, and natural gas, formed from the remains of prehistoric organisms.

**Insulation:** Any materials that inhibit the flow of heat from one area to another.

**Passive Solar Energy:** Use of energy of the sun without mechanical devices; an example is a regular window which is placed in such a way as to let in natural breezes in summer, and the heat of the sun in the winter.

**Ventilation:** System by which air flow and circulation is achieved.

**Weather Stripping:** Thin strips of metal, felt, or foam used around the edges of doors and windows to keep out drafts, rain, and so on.

Several activities which incorporate these concepts follow.

### ENERGY USE IN THE HOME

It is possible to conserve energy used in the home in many ways. Since the largest amounts of energy are used to heat, cool, and provide warm water for the house, major attention needs to focus on habits associated with these aspects of one's lifestyle.

#### Activity

Contact an energy office in your state to get data about local uses of electricity. An example from Florida is:

#### Yearly Energy Consumption of the Average all Electric Central Florida Home\*

|                          |     |
|--------------------------|-----|
| Air conditioning .....   | 31% |
| Space heating .....      | 21% |
| Water heating .....      | 14% |
| Refrigeration .....      | 10% |
| Cooking .....            | 6%  |
| Lighting .....           | 6%  |
| Laundry .....            | 4%  |
| Misc. (T.V., etc.) ..... | 8%  |

\*Source: *Residential Energy Workbook, Central Florida*. Tallahassee: Governor's Energy Office, 1980.

Given such data, 1) take a month's electrical bill and figure the actual dollars spent for each energy use, and follow by 2) suggesting ways to reduce electrical energy use.

### Activity

Explore the concept of peaking in energy use, the time during each day when the demand for electricity is very high (usually from 5:00 p.m. to 10:00 p.m. on weekdays), by reading about why energy costs more during these times or by having a speaker from a utility company talk about the problem.

Then, think about how people can help reduce peaking by using major appliances during hours other than peak periods. For example:

Write a list of the electrical appliances your family uses during the early evening (peak) hours.

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Now list any of those appliances which could be used at another time, avoiding peak period usage. Write down the alternate times you might suggest.

| APPLIANCE | TIME  |
|-----------|-------|
| <hr/>     | <hr/> |
| <hr/>     | <hr/> |
| <hr/>     | <hr/> |

After you have completed your list, talk it over with classmates and share ideas. The final and *most important* step is taking your ideas home to your family so that you can put them into operation. After talking with your family, share with your class any changes you made.

The problem with peaking is that electrical generating plants generally operate less efficiently during peak periods. In times of "normal" demand for electricity, the plants usually operate only their largest and newest generators, which tend to be the most fuel efficient. Not only does the plant have to produce more electricity during peak periods but each unit of electricity produced is more costly in terms of both energy consumption and money.

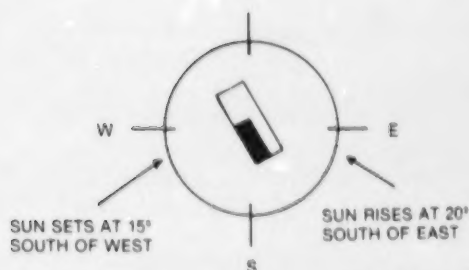
What this means to consumers of electricity is that the more electricity used during peak periods, the higher everyone's utility bill will be, due to inefficient fuel usage. On the other hand, if electricity usage could be leveled out over the whole day, then the utility plant could generate the needed electricity at less than peak costs, and all its users' electricity bills would be lower.

## ORIENTATION OF A HOME TO THE SUN

Another way to address the concept of voluntary simplicity in housing is to explore the question of how the orientation of a home to the sun influences its temperature. This could be an important factor to consider when buying or renting housing for oneself and one's family. The United States Department of Energy (1977) provided the following illustration which may be useful in teaching. It clearly explains the importance of a home's orientation to the sun.

### Activity

The way in which your home is oriented to the sun and wind affects the impact of the climate and the energy needed to maintain comfort. To understand this concept, it is helpful to determine the compass orientation of your home. First, think of your home as a box (usually a rectangular box) and view it from a bird's perspective. Given the directions of the compass on the circle below, locate your house in the center facing the appropriate direction. Use a compass to determine which direction each side of your home faces. It may not be directly N, S, E, or W, but using the face of the compass and this circular representation you should be able to make a good estimation of the direction. Once the house is sketched on the circle, use your compass to locate the point at which the sun rises and sets.

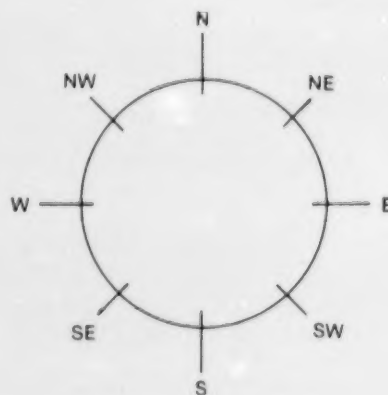


In the example on the left, the house is rectangular and the living area (the family room/kitchen) is represented in black. You can see that the long axis of the house runs slightly W of North by slightly E of South. The points indicating the sunrise direction and sunset are marked. Conclusion: The family room area will receive the afternoon sun and be a "sun warmed" area. This could be beneficial or not depending on the climate.

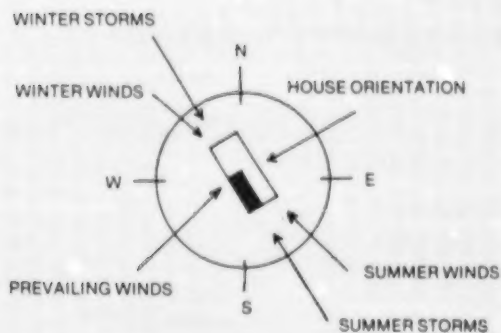
Use the circle on the right to locate your house.

### Instructions:

1. Draw on your house's orientation to the compass.
2. Draw in where the sun rises and sets.
3. Where are the living areas (den, family room, kitchen) of your house in relation to the compass?
4. Are the living areas exposed to morning or afternoon sun?



In addition to the sun, the winds also can be located on a similar drawing. Using the same example, we can illustrate the direction from which the winds affect the house. Information about winds can be found through observation or by inquiring at your local weather bureau, agricultural extension service, or news agencies. There may be slight differences with a local area due to hills or water.

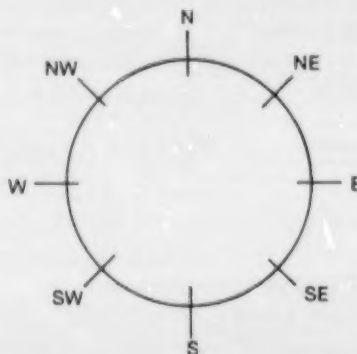


In the example, the living area is only exposed to prevailing winds and slightly to summer storm winds. The winter winds are from the NW, so the example house should not have large window areas on the NW side if it is located in a temperate or cool climate zone.

Use the circle on the right to locate your house.

**Instructions:**

1. Locate house orientation.
2. Locate prevailing winds.
3. Locate summer winds and summer storms.
4. Locate winter winds and winter storms.
5. Which areas of your house are exposed to storm winds? To winter winds?



Follow the activity by asking, Do you feel your house has a good or poor orientation to the sun and wind? Why? Suggestion: The teacher may need to demonstrate how to use a compass. Locate the classroom on a circular grid.

## NATURAL WAYS TO WARM A HOME

Students may already know that there are solar heating units available which can be installed in buildings to use the sun's energy to warm the air. But something they may not have thought of is the possibility of using the sun for space heating *without* installing any new equipment. There are basically three things that can be done to take advantage of solar energy to heat a home. The first two ways involve letting the sun's heat into the home, and the third involves keeping it there (U.S. Department of Energy, 1977). Some information about each of these techniques is given below and an activity related to each is suggested.

### 1. Using Trees and Shrubs

In order to keep one's home cool in the summer, trees and shrubs can be used to shade the house from the sun's heating rays. But in winter, the opposite problems occurs — the sun is needed to warm the building. So how can one solve this problem? There are two ways.

First, the sun may strike a home from slightly different angles in winter and in summer. A person can easily check this and see where he/she might plant trees and bushes to shade a home in summer and let some rays through in winter. The second idea is to solve this problem by planting *deciduous* trees around a home. Some trees, like pines and cedar, keep their foliage all year round. *Deciduous* trees, on the other hand, grow a thick cover of leaves in spring and summer, and then lose them when the weather gets cold in fall. So they would naturally shield one's home from unwanted solar heat in summer, and let in the warming rays in winter.

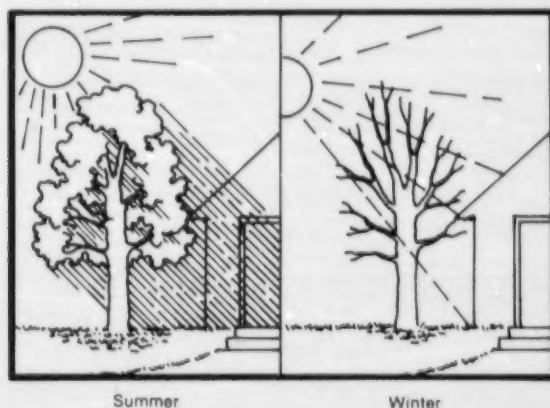


Figure 1. Summer and Winter Effects of Deciduous Trees on Sun's Radiation.

### Activity

Call or visit a nursery or garden center in your area. Find out the names of some fast-growing deciduous trees that might be used to shelter homes from the sun in the summer and let the warmth through in winter. See if someone at the garden center or at a landscaping service would be willing to come and talk with your class about the use of trees and shrubs in natural heating and cooling of homes. Follow-up by having students develop a plan for plantings outside a home which has a specified relation to the sun and the prevailing winds.

## 2. Analyzing Windows

Since windows are one of the main areas of heat transfer between the inside and outside of a home, they can be used to let solar heat into the house in winter. By opening the drapes or blinds on the side of the house where the sun is shining, heat will come in. At the same time, drapes on the shady side of the building can be closed to keep the warm air from escaping through the windows.

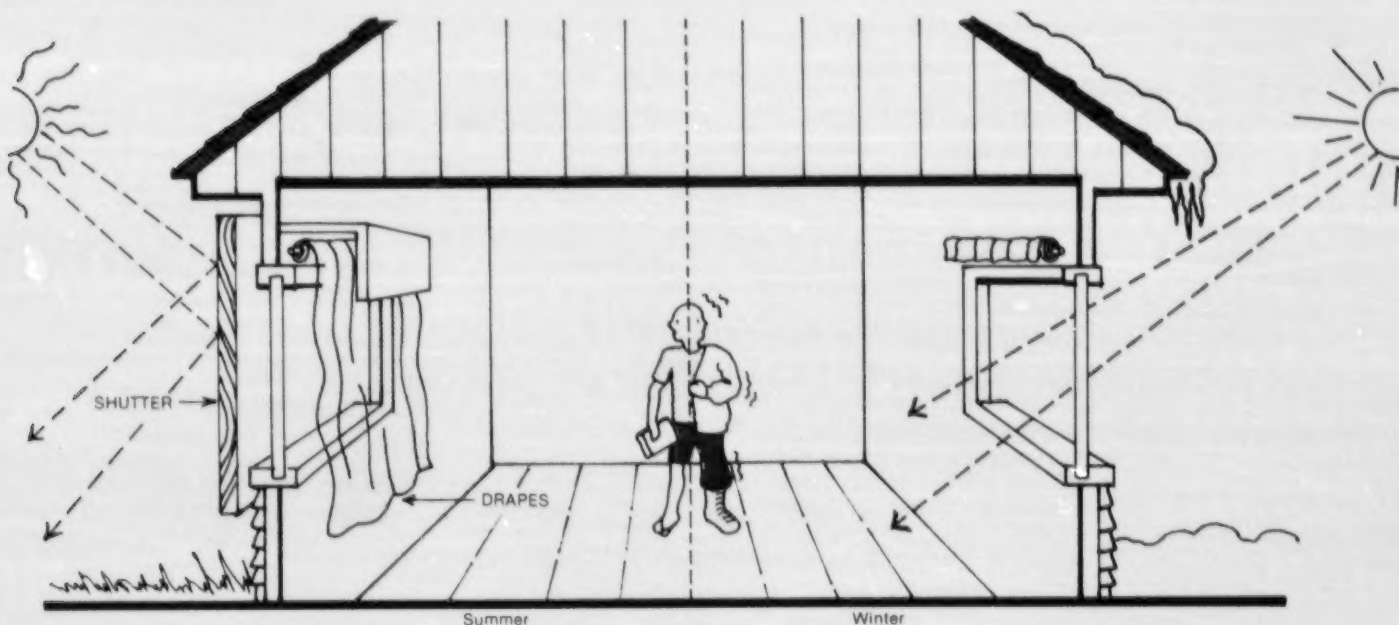


Figure 2. Use of Drapes to Let In Sun's Heat in Winter, Block Heat in Summer.

### Activity

Select a public building such as a store or post office that is nearby. Discuss how the building's windows allow and/or prevent heat loss, as well as how the window treatment does the same.

Look at floor plans of buildings with windowless rooms as well as rooms which have various amounts and kinds of windows. Then discuss the possible comfort versus discomfort of carrying out such activities as cooking, reading, or sleeping in these rooms.

### 3. Insulating the Home

One of the most — if not *the* most — important factor in any heating system is good insulation. If a home is adequately insulated, any system will operate more efficiently. But if the insulation is inadequate, the heating system will be costly and inefficient, regardless of what kind of heating system it is.

In a recent study (Birchfield, Combs, and Olsen, 1979), it was found that by using the best carpet and padding, floor heat loss is reduced by as much as 54 percent if the floor is wood with a crawl space beneath it, and by as much as 72 percent if the floor is a concrete slab. This means that by using thick, dense carpet and high quality padding, from 7 to 15 percent per year of the energy for heating and cooling can be saved.

Textiles adapted for wall coverings may also help to add insulation to a home. In early European history, large tapestries hung on castle walls for interior decoration purposes but also prevented drafts and provided insulation. Today, textiles, some of which are incorporated into wall covering, provide some insulation and a visual sense of being warm. Even carpeting, artistic tapestries, and quilts are attached to walls today.

#### Activity

By removing the cover of a wall switch where lights are switched off and on in a room, one can see exactly how much insulation there is in outside walls of one's house. The accompanying illustration of a home could be copied to help students learn where to look for insulation. The insulation appears in black along certain walls.

As a follow up activity the teacher should explain free energy audits (if they are available) and lead the class to discuss the kinds, costs, and benefits of increasing the insulation of one's home.



## Energy Used When Cooking Foods in Various Appliances\*

| Food                                    | Cooked In                     | Electric Consumption |     | Approximate Cost @ 6¢/kw |
|-----------------------------------------|-------------------------------|----------------------|-----|--------------------------|
| Rib Roast<br>(3-3½ lbs.)                | Electric Skillet              | 0.7                  | kwh | 4.2¢                     |
|                                         | Pressure Cooker               | 0.7                  | kwh | 4.2¢                     |
|                                         | Microwave Oven                | 1.1                  | kwh | 6.6¢                     |
|                                         | Conventional Oven             | 1.3                  | kwh | 7.8¢                     |
|                                         | Slow Cooker                   | 2.2                  | kwh | 13.2¢                    |
| Meatloaf<br>(2 lbs. ground beef)        | Pressure Cooker               | 0.52                 | kwh | 3.1¢                     |
|                                         | Microwave Oven                | 0.775                | kwh | 4.7¢                     |
|                                         | Slow Cooker                   | 0.85                 | kwh | 5.1¢                     |
|                                         | Conventional Oven             | 1.1                  | kwh | 6.6¢                     |
| Glazed Pork Loin Roast<br>(3½ lbs.)     | Microwave Oven                | 0.56                 | kwh | 3.4¢                     |
|                                         | Pressure Cooker               | 0.8                  | kwh | 4.8¢                     |
|                                         | Conventional Oven             | 1.4                  | kwh | 8.4¢                     |
|                                         | Electric Skillet              | 1.42                 | kwh | 8.5¢                     |
|                                         | Slow Cooker                   | 1.76                 | kwh | 10.6¢                    |
| Roast Chicken<br>(3-3½ lbs.)            | Microwave Oven                | 0.5                  | kwh | 3.0¢                     |
|                                         | Pressure Cooker               | 0.53                 | kwh | 3.2¢                     |
|                                         | Slow Cooker                   | 0.8                  | kwh | 4.8¢                     |
|                                         | Electric Skillet              | 1.05                 | kwh | 6.3¢                     |
|                                         | Conventional Oven             | 1.3                  | kwh | 7.3¢                     |
| Fresh Green Beans<br>(seasonings & ham) | Surface of Conventional Range | 0.28                 | kwh | 2.1¢                     |
|                                         | Pressure Cooker               | 0.38                 | kwh | 2.3¢                     |
|                                         | Microwave Oven                | 0.46                 | kwh | 2.8¢                     |
| Carrots (6-8 medium<br>with sauce)      | Surface of Conventional Range | 0.2                  | kwh | 1.2¢                     |
|                                         | Pressure Cooker               | 0.25                 | kwh | 1.5¢                     |
|                                         | Microwave Oven                | 0.28                 | kwh | 1.7¢                     |
| Baked Beans                             | Pressure Cooker               | 0.7                  | kwh | 4.2¢                     |
|                                         | Slow Cooker                   | 1.2                  | kwh | 7.2¢                     |
|                                         | Microwave Oven                | 1.96                 | kwh | 11.8¢                    |
| Fruit Crisp                             | Microwave Oven                | 0.25                 | kwh | 1.5¢                     |
|                                         | Electric Skillet              | 0.43                 | kwh | 2.6¢                     |
|                                         | Conventional Range            | 0.6                  | kwh | 4.8¢                     |
| Cookies (3½-4 doz.)                     | Microwave Oven                | 0.2                  | kwh | 1.2¢                     |
|                                         | Conventional Oven             | 0.67                 | kwh | 4.0¢                     |

\*Wood, Kathleen F., Florida Cooperative Extension Service, Institute of Food and Agricultural Sciences, University of Florida, Gainesville, 1980.

## ENERGY USE IN FOOD PRODUCTION

A food eaten raw, such as a carrot, has required the use of energy in production. Think of the tractor involved in preparing the soil or harvesting. Even if the carrot came out of one's own small garden, some energy was needed to produce the fertilizer. Can our food choices make a difference in total energy used? Let's compare.

### Activity

Divide into small groups as a class. Have each group select a food item (e.g., breakfast cereal, beef steak, lettuce, canned peaches, chicken, tuna, bakery cake, apples, fresh shrimp, or jelly). Then, as a group, list steps which the food items would go through prior to consumption and determine the energy involved at each step. Think of as many as possible. After compiling the lists, discuss which of the items reflect the values of a voluntarily simple lifestyle. Then, think of benefits that would personally be received by choosing foods more compatible with this lifestyle.

Example:

#### Breakfast Cereal

| Steps                 | Energy Used                   |
|-----------------------|-------------------------------|
| Planting              | Tractor fuel                  |
| Fertilization         | Tractor fuel                  |
| Harvesting            | Tractor fuel                  |
| Processed into cereal | Factory energy                |
| Delivered to store    | Transportation fuel           |
| In store              | Electricity for store         |
| Taken home            | Car gasoline                  |
| Used with milk        | Electricity for refrigeration |

### Activity

View the movie "Toast," which illustrates energy used in food production. Follow by discussing the uses of energy which it shows, or follow by inviting a local food producer to discuss costs of producing various foods.

## USING COMPLEMENTARY PROTEINS IN FOOD SELECTION

Most students will have heard of protein. They probably will know that protein is found in meat, eggs, and milk and that protein builds muscles, repairs burns, cuts, and sores, and helps fight infections. But students may not know that proteins are large molecules composed of smaller molecules called amino acids and that considering these can be one means of adopting a voluntarily simple lifestyle.

There are 22 amino acids. The body can make all but 8 of the 22 amino acids. These 8 essential amino acids (E.A.A.) are: tryptophan, methionine, lysine, isoleucine, leucine, threonine, phenylalanine, and valine. The E.E.A. must be provided in correct proportions and at the same meal for the body to effectively use the amino acids to build body proteins.

Complete proteins, such as eggs, milk, and meat, contain all 8 E.E.A. Incomplete proteins, such as legumes (peas and beans), seeds, nuts and grains, are partially deficient in one or two E.E.A. However, complete proteins are made by combining two different incomplete protein foods. By eating grains and legumes at the same meal, the two incomplete proteins serve as a complete protein source or complement each other (see table below).

### Complementary Proteins

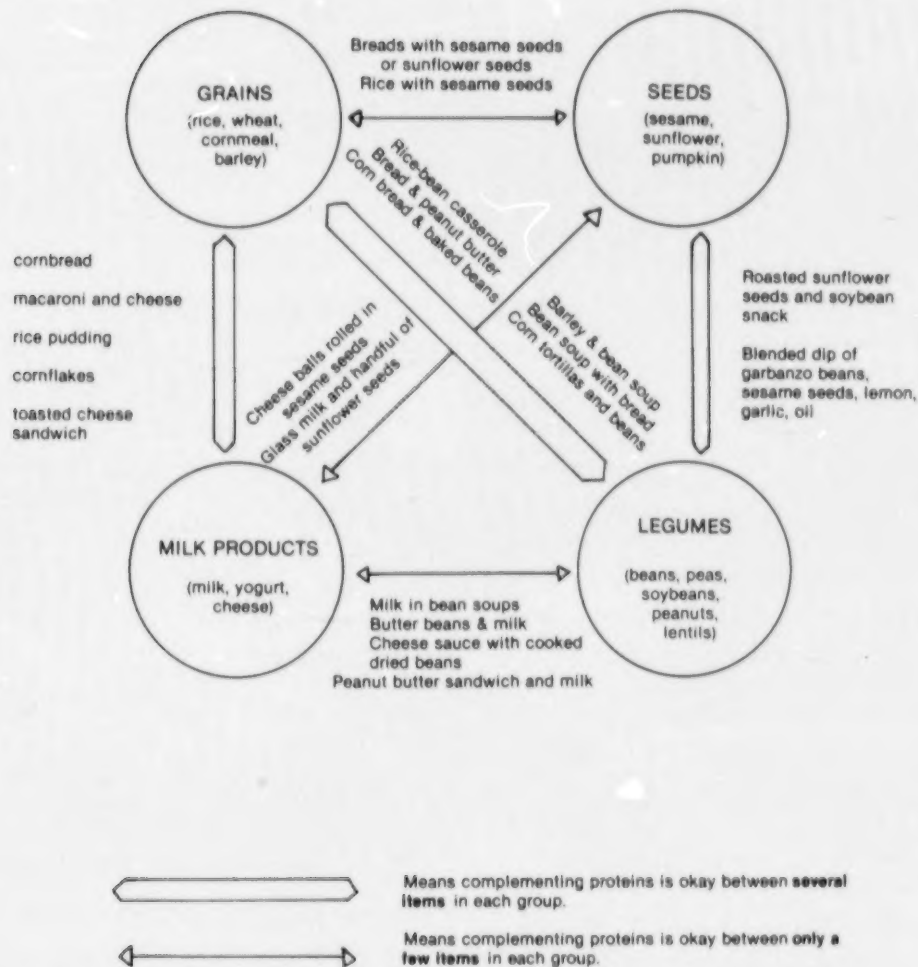
|                |   |                |
|----------------|---|----------------|
| Grains         | + | Legumes        |
| Seeds          | + | Legumes        |
| Nuts           | + | Legumes        |
| Dairy Products | + | Grains         |
| Dairy Products | + | Seeds and Nuts |
| Dairy Products | + | Legumes        |

An incomplete plant protein can also be completed or made complete by the addition of a complete protein such as eggs or milk or meat. By taking advantage of this complementary effect, dishes and meals can be planned so that the amino acids in one food complement the amino acid deficiency in another food.

### Activity

Suppose we all keep on eating meat, rather than complementary protein? It takes eight pounds of grain to produce one pound of beef. Think of the people who need that eight pounds of grain! The issue is a very complex one, deserving a much longer discussion than can be presented here. For example, some people would ask whether certain nations should feast while others are in famine. Others would argue that using complementary proteins can save money. The chart which follows (Lappe, 1971, p. 153) shows ways to combine proteins. Suppose a family were serving macaroni and cheese, but one member refused to eat it. Using the following chart, determine various substitute dishes which would combine proteins for that individual. Discuss all the possible solutions to this problem. Several vegetarian cookbooks are listed in the resource section at the end of this publication.

## SUMMARY OF COMPLEMENTARY PROTEIN RELATIONSHIPS



| Have<br>Done | Will<br>Do |
|--------------|------------|
|--------------|------------|

- |  |                                                                                                                                                                                                                                                                                                                                                                                               |
|--|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 5. <b>Clean condenser coils twice a year with a soft brush or vacuum cleaner.</b> The condenser coils (beneath or behind the unit) collect dirt which can significantly reduce efficiency.                                                                                                                                                                                                    |
|  | 6. <b>Place the refrigerator in the coolest part of the room away from the range or heater.</b>                                                                                                                                                                                                                                                                                               |
|  | 7. <b>Cover all liquids stored in the refrigerator because evaporation causes frost to build up.</b>                                                                                                                                                                                                                                                                                          |
|  | 8. <b>Don't keep your refrigerator or freezer too cold.</b> For normal operation, a temperature of 35 to 40 degrees is recommended for the refrigerator section and a setting no lower than zero degrees is recommended for the freezer. Use a refrigerator thermometer or outdoor thermometer to check the temperature. Leave the thermometer in at least fifteen minutes before reading it. |
|  | 9. <b>Keep the freezer as full as possible.</b> It will use less energy and prevent heavy icing.                                                                                                                                                                                                                                                                                              |
|  | 10. <b>Turn off, empty, clean, and leave refrigerator door open when taking an extended vacation.</b>                                                                                                                                                                                                                                                                                         |
|  | 11. <b>Consider buying refrigerators and freezers that have to be defrosted manually.</b> Although they take more effort to defrost, these appliances use less energy than those that defrost automatically.                                                                                                                                                                                  |
|  | 12. <b>Many refrigerators have heating elements in their walls to prevent condensation on the outside. Some newer models have switches to turn off these heaters, and they should be left off in air-conditioned homes where humidity is not a problem.</b>                                                                                                                                   |

#### WATER

- |  |                                                                                                                                                                                                                                                                   |
|--|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|  | 1. <b>Repair leaky faucets promptly.</b> One drop a second can waste as much as 60 gallons of hot or cold water in a week.                                                                                                                                        |
|  | 2. <b>Use cold water rather than hot to operate the food disposal.</b> This saves the energy needed to heat the water, is recommended for the appliance, and aids in getting rid of grease. Grease solidifies in cold water and can be ground up and washed away. |
|  | 3. <b>Install an aerator in the kitchen sink faucet.</b> By reducing the amount of water in the flow, less hot water is used and thus energy that would have been required to heat the water is saved. The lower flow pressure is hardly noticeable.              |
|  | 4. <b>Don't wash or rinse dishes in running water.</b> A sinkful of wash water and one of rinse water will do the job just fine.                                                                                                                                  |
|  | 5. <b>Don't let the faucet run when scrubbing vegetables or preparing other foods.</b> Use the sink or a pot of water instead.                                                                                                                                    |

In addition to using the checklist in class or at home, the checklist could be used to develop and sponsor a school contest to determine the group (class, room, etc.) or person that carries out the largest number of activities in the kitchen.

## IV. INTEGRATING VOLUNTARY SIMPLICITY INTO CLOTHING AND TEXTILES

The textile industry uses about one percent of the nation's petroleum supply. The industry's total energy requirement is equivalent to 67 million barrels of oil per year. To prevent a reduction in textile production, increased costs, and resulting unemployment, the industry is using innovative methods to conserve energy and preserve the textile business. Manufacturers are doing everything from tightening bolts and pulleys, which improves machine efficiency, to using solar power for heating water. Energy conservation programs are being shared among manufacturers. These conservation programs have resulted in energy efficiency improvements for the textile industry.

Consumers can also think of the energy used for the care of textile products. Washing, drying, and ironing all require energy. The selection of fabrics that require a shorter drying time or can be line-dried, along with fabrics that can be washed in cold water or need no ironing, result in less cost to the consumer and conserve energy needed for the future. For example, a recent study (Wallenberger, Slack, and Wentz, 1980) indicated that in home laundering and drying, the combined energy demand for 100 percent cotton fabrics is several times higher than for 100 percent polyester or blends having high polyester content. It may cost more for the initial purchase of a polyester shirt because of the petroleum required to produce the synthetic fiber, but a shirt with a 50/50 blend will require 30 percent less energy to maintain than a 100 percent cotton garment. Home laundering and drying to maintain garment appearance is a process that is repeated 20 to 50 times during the lifetime of a garment. Consumers also want to consider durability of garments, construction, and other factors besides cost of care when selecting garments. For example, selecting clothing for its insulating qualities and taking steps to extend the life of clothing are also ways of adopting a voluntarily simple lifestyle.

## DRESSING TO KEEP WARM OR COOL

### Activity

To begin thinking about ways to control body warmth or coolness with clothing, complete the following checklist. Check off what you have done or will do. Follow by developing a bulletin board or school display to illustrate several of the concepts. Consider integrating an analysis of recently advertised clothing.

| Have Done                | Will Do                  | Dressing to Keep Warm                                                                                                                                                                                                              |
|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Choose the fit of a garment so that it allows an insulating layer of air between the body and the fabric.                                                                                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Choose garments with neck and wrist closings to prevent the escape of warm air. A close fit at the wrists and ankles will help.                                                                                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Wear enough lightweight layers to trap air between the layers, but not compress the air space or prevent good circulation. Add or remove layers as temperatures or activities change. Wear the warmest layers next to the body. |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Wear dark colors to absorb the sun's rays and warm hues (red, orange, and yellow) for a visual feeling of warmth.                                                                                                               |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Wear textured, long, thick socks and stockings. If these are layered, allow enough shoe room for foot circulation and insulating air.                                                                                           |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Wear thick mittens instead of gloves to trap air around fingers, and prevent heat loss from the added surface area in gloves.                                                                                                   |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Wear warm, closed shoes having thicker soles, warm linings (such as fleece) and made of heavy, sturdy materials.                                                                                                                |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Protect the head and neck from losing a major percentage of body heat by wearing a hood or hat and scarf. At 60° F, 33% of heat loss is through the head; at 5° F, it is 75%.                                                   |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Use scarves and belts to prevent heat loss.                                                                                                                                                                                     |

| Have Done                | Will Do                  | Dressing to Keep Cool                                                                                                                                                                                                                                                              |
|--------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <input type="checkbox"/> | <input type="checkbox"/> | 1. Choose loose fitting garments to allow for air circulation.                                                                                                                                                                                                                     |
| <input type="checkbox"/> | <input type="checkbox"/> | 2. Choose garments with large openings so heat can escape.                                                                                                                                                                                                                         |
| <input type="checkbox"/> | <input type="checkbox"/> | 3. Wear shorts rather than long pants.                                                                                                                                                                                                                                             |
| <input type="checkbox"/> | <input type="checkbox"/> | 4. Wear short sleeved or sleeveless blouses and shirts.                                                                                                                                                                                                                            |
| <input type="checkbox"/> | <input type="checkbox"/> | 5. Avoid lined garments and those with waistlines.                                                                                                                                                                                                                                 |
| <input type="checkbox"/> | <input type="checkbox"/> | 6. Wear a minimal number of layers.                                                                                                                                                                                                                                                |
| <input type="checkbox"/> | <input type="checkbox"/> | 7. Wear blends of natural and man-made fibers.                                                                                                                                                                                                                                     |
| <input type="checkbox"/> | <input type="checkbox"/> | 8. Wear light colors or white to reflect the sun's rays and reduce heat gain (up to 50%). Wear cool colors (greens and blues) for a visual feeling of being cool.                                                                                                                  |
| <input type="checkbox"/> | <input type="checkbox"/> | 9. Wear lightweight short socks and open shoes or sandals. Avoid stockings.                                                                                                                                                                                                        |
| <input type="checkbox"/> | <input type="checkbox"/> | 10. Wear an open-weave, brimmed hat or cap in the sun.                                                                                                                                                                                                                             |
| <input type="checkbox"/> | <input type="checkbox"/> | 11. Choose water repellant, not waterproof, rainwear for better ventilation.                                                                                                                                                                                                       |
| <input type="checkbox"/> | <input type="checkbox"/> | 12. Avoid scarves, belts, and ties that trap body heat. This increases air flow by reducing the number of contact points between the garment and the body, like the neck, shoulder, waist, wrist, and ankle. If used, make sure they are lightweight, absorbent, and loosely worn. |

## EXTENDING THE LIFE OF CLOTHING

Recycling and repairing clothing is yet another way to stretch resources. One need only notice the growth in shoe repair shops and second hand clothing shops to realize how many people believe in these practices. Some ideas follow for extending the life of clothing.

### Activity

Bring to class one garment that needs a repair. Determine what repair is needed and what materials and equipment are necessary to make the repair. Then, complete repairs. After repairs are completed, write a short report describing repairs and how they were accomplished. Repairs may include replacing a button, mending a buttonhole, turning a collar or cuffs, patching elbow or knee areas, patching a tear, or covering a burn mark.

### Activity

Arrange a clothing swap in class or school. Trade clothing items with others. Follow by preparing a summary of number and types of clothing items traded. Identify clothing items which could be redesigned. For example, blouses or full slips can be turned into camisoles, and dresses into patchwork skirts or children's clothing. Follow by redesigning a clothing item for yourself or someone else.

### Activity

Look into the used clothing market. Invite a speaker from Goodwill, the Salvation Army, or other used clothing retailer such as "The Second Time Around" to address the topic "Second Hand Clothing, A Hidden Treasure." Ask the speaker to cover the following points in the presentation.

1. Why sell used clothing?
2. What happens to used clothing when it comes into his/her establishment?
3. Who buys used clothing?
4. Who provides the used clothing to be sold?
5. What should people look for to get the most from second hand clothing?

Follow-up by taking a field trip to a used clothing store.

## MANAGING ENERGY IN CLOTHING CARE

Home maintenance of clothing requires energy for water heating, washing, drying, and ironing. Eighty-five percent of the energy used for washing clothes is for heating water. A 14-pound load can use as much as 26 gallons of water per complete wash and rinse cycle. We can reduce energy consumption by about 50 percent by using warm water for washing and cold water for rinsing. For example, a hot wash and warm rinse combination requires 25 gallons of hot water. Changing the rinse water to cold will save 8 gallons of hot water. We can increase savings in money and energy even further by using a cold water detergent, and washing in cold water instead of warm water.

### Activity

Use the following checklist to identify practices you and your family have followed in washing clothing. Then, after discussing with other family members, check additional practices you could follow in the future. Keep track of progress.

### CHECKLIST FOR WASHING CLOTHING

| Have<br>Done | Will<br>Do                                                                                                                                                                                                                                                                                                                                                                                                                         |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              | 1. Use hot water — 130° F (54° C) or warmer for: <ul style="list-style-type: none"> <li>— 100% white and colorfast (non-fading) cottons</li> <li>— Heavy soil on white or light colored cottons</li> <li>— Grease and oil stains</li> <li>— Perspiration and deodorant stains</li> <li>— Diapers</li> </ul>                                                                                                                        |
|              | 2. Use warm water — 100° F to 110° F (38-43° C) for: <ul style="list-style-type: none"> <li>— Man-made fabrics and permanent press or wash and wear clothing</li> </ul>                                                                                                                                                                                                                                                            |
|              | 3. Use cold water — 80° F (26° C) for: <ul style="list-style-type: none"> <li>— All rinsing</li> <li>— Washable woolens</li> <li>— Bright colors, unless heavily soiled</li> <li>— Dark or bright colors that bleed out dye</li> <li>— Stains like milk, blood, and fruit juice</li> <li>— Presoaked or pretreated items with heavier soil</li> <li>— Check water temperature to make sure it is not below 5° F (10° C)</li> </ul> |
|              | 4. Use a water softener if your water is hard to medium-hard.                                                                                                                                                                                                                                                                                                                                                                      |
|              | 5. Pretreat spots, stains, and heavy or greasy soil with liquid detergent or a laundry pretreating aid.                                                                                                                                                                                                                                                                                                                            |
|              | 6. Use more detergent. A general rule is to use 1½ times the usual amount of detergent.                                                                                                                                                                                                                                                                                                                                            |
|              | 7. Dissolve powdered detergents in warm water before adding to the cold water even if the detergent is designed for cold water.                                                                                                                                                                                                                                                                                                    |
|              | 8. Fill the washer with cold water, add detergent in liquid form, agitate a few minutes and then add clothes.                                                                                                                                                                                                                                                                                                                      |
|              | 9. For best soil removal, agitate the wash load for 12 to 14 minutes or presoak to give extra time, even though this takes more energy.                                                                                                                                                                                                                                                                                            |
|              | 10. Alternate the use of cold and warm water washings if garments become dingy.                                                                                                                                                                                                                                                                                                                                                    |
|              | 11. If using bleach to disinfect, remember you can use it for 75 percent of all colored garments. Also, liquid bleach is effective in cold water, whereas an "all fabric" bleach diminishes in effectiveness from hot to warm to cold water.                                                                                                                                                                                       |
|              | 12. Sort laundry according to color, amount of soil, fabric type, tendency to lint, and water temperature requirement.                                                                                                                                                                                                                                                                                                             |
|              | 13. Read detergent, bleach, pretreatment, and presoak labels and follow directions for best results.                                                                                                                                                                                                                                                                                                                               |

### Activity

This checklist will help you identify ways you can become a better energy manager when drying clothing. Use it to identify practices you and your family have followed and could follow in the future. Consider sharing progress with classmates.

### CHECKLIST FOR DRYING CLOTHING

| Have<br>Done | Will<br>Do |                                                                                                                                                                                                                                                                                              |
|--------------|------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|              |            | 1. Dry only full loads, but do not overload. Overfilling your dryer is hard on the machine and clothes take longer to dry.                                                                                                                                                                   |
|              |            | 2. Dry your clothes in consecutive loads. Stop-and-start drying uses more energy because a lot of energy goes into warming some dryers up to the desired temperature each time you begin.                                                                                                    |
|              |            | 3. Separate drying loads into heavy and lightweight items. Since lighter ones take less drying time, the dryer does not have to be on as long for these loads.                                                                                                                               |
|              |            | 4. If drying the family wash takes more than one load, leave small lightweight items until last. You may be able to dry them at a reduced heat setting by using the heat retained by metal parts from earlier loads.                                                                         |
|              |            | 5. Avoid over-drying, which wastes energy and can cause shrinking, a build-up of static electricity, and wrinkling.                                                                                                                                                                          |
|              |            | 6. If the dryer has an automatic dry cycle, use it. This will prevent over-drying.                                                                                                                                                                                                           |
|              |            | 7. Remove clothes to be ironed while still damp and warm. Your job and the iron's will be faster and easier.                                                                                                                                                                                 |
|              |            | 8. Except for 100% cotton, remove clothes when they still have a little moisture in them. This prevents clothes from wearing out as fast and some fabrics will be more comfortable with some moisture.                                                                                       |
|              |            | 9. Clean the lint trap before drying each load. A clogged lint trap increases the dryer's operating cost by lowering its air flow and efficiency.                                                                                                                                            |
|              |            | 10. Remove items as soon as the dryer stops to avoid unnecessary wrinkling that will require pressing.                                                                                                                                                                                       |
|              |            | 11. Be sure the dryer is vented to the outside of your home so moisture removed from the clothes won't be left inside.                                                                                                                                                                       |
|              |            | 12. Keep the outside exhaust of your clothes dryer clean. Check it regularly. A clogged exhaust lengthens the drying time and increases the amount of energy used.                                                                                                                           |
|              |            | 13. Drip dry the individual items and very small loads in your bathroom or on your porch, rather than running the dryer.                                                                                                                                                                     |
|              |            | 14. Let your dryer rest whenever possible by line drying your wash. Use the dryer only in inclement weather. Careful hanging will help reduce wrinkling. (Free solar and wind power!) The heating element in the dryer uses most of your laundry energy budget (\$50 per year for one load). |
|              |            | 15. Select the correct setting, according to the type of fabric and the directions in your dryer's instruction manual. This will protect your clothing and prevent energy waste.                                                                                                             |
|              |            | 16. In winter, vent the dryer into a pail of water in the house to humidify the interior environment.                                                                                                                                                                                        |

Incorporating energy conservation into one's laundry habits is important, but one's conservation choices do not stop there. Many American households have dryers and even more homes have washing machines. Before initial purchase of appliances such as these, energy efficiency and operating costs of various models can be compared. An initially more expensive model may actually be economical in the long run when operating cost over time is considered.

To help consumers with conservation, the federal government is requiring an energy cost label be affixed to the following appliances: refrigerators, refrigerator-freezers, freezers, clothes washers, dishwashers, water heaters, room air conditioners, and furnaces. This regulation has been required since May 19, 1980. The energy cost labels show an estimated annual operating cost based on an estimated average use and a national average electric or gas rate (see next page).

For clothes washers, there will be two energy costs on the label: one for the electric water heaters, and the other for gas water heaters, for a given number of wash loads done per week. Energy figures are based on the current national average utility rates of:

4.97¢ per kilowatt hour electricity  
36.07¢ per therm for natural gas

Not all appliances, like the clothes dryer, are included in the labeling requirement. This is because calculating the energy costs was not technically feasible. An activity which helps students explore these concepts follows.

#### **Activity**

Compare advertisements for actual washing machines or clothes dryers to determine the best buy for a given family or individual. Consider: initial costs, options, size required for family needs, energy required, cost of energy in your area, and total operating cost. Follow by identifying the most important considerations for given family types or situations.

## ENERGY GUIDE

From: U.S. Department of Energy, Washington, D.C., 20545 and  
The Soap And Detergent Association

Look for the **ENERGYGUIDE** label when you purchase major home appliances. Follow these appliance tips to save even more energy and money on presently owned or new appliances.

**WATER HEATER:** Lower the hot water temperature to 105°F. or 140° with dishwasher. Purchase and install a water heater insulation kit. Turn thermostat down or turn electricity off when on vacation.

**CLOTHES WASHERS:** Heating water accounts for 95 percent of the energy consumed for hot-water washing. Save money by washing full loads in cold water. Always use cold-water rinse.

**DISHWASHERS:** A dishwasher consumes the same amount of energy whether washing a full or small load. Save by washing only full loads.

**FURNACES:** Save 9-15 percent by turning down thermostat at night; changing or cleaning filters regularly; closing drapes at night; servicing annually (in full); sealing house against leaks.

**REFRIGERATORS-FREEZERS:** More economical when full; don't leave door open; cool hot food before putting in; keep coils clean.

**FREEZERS:** More economical when full; remove frost buildup regularly; keep coils clean; chest freezer 15 percent more efficient than upright.

**HEAT PUMPS:** Set at 78° in summer and 65° in winter; service annually; change or clean filters regularly; seal house against leaks; during the winter, don't turn the thermostat down at night.

**ROOM AIR-CONDITIONERS:** Change or clean filter monthly; use fan only when adequate, otherwise set thermostat at warmest comfortable setting; close drapes to block direct sunlight.

Product Category  
Type/Size of Product

Product Manufacturer  
Product Model Numbers

Capacity range for  
product comparison

Explains the figures used  
to determine the average  
cost of using this product

Highest and lowest energy  
costs of products falling  
within this capacity range

Average cost of using this  
product for one year, based  
on average use per week

Estimate your personal cost  
to use this product by  
determining the local  
utility costs

Refrigerator-Freezer  
Capacity 17 Cubic Feet

(Name of Corporation)  
Model(s) AH503, AH504, AH507  
Type of Defrost: Full Automatic

# ENERGYGUIDE

Estimates on the scale are based  
on a national average electric  
rate of 4.97¢ per kilowatt hour

Only models with 16.5 to 18.4  
cubic feet are compared  
in the scale

Model with  
lowest  
energy cost  
**\$50**

**\$70**

Model with  
highest  
energy cost  
**\$88**

THIS MODEL

Your cost will vary depending on your local energy rate and how  
you use the product.

How much will this model cost you to run yearly?

| Yearly cost                  |           |
|------------------------------|-----------|
| Cost per<br>kilowatt<br>hour | 2¢ \$28   |
|                              | 4¢ \$57   |
|                              | 6¢ \$85   |
|                              | 8¢ \$113  |
|                              | 10¢ \$142 |
|                              | 12¢ \$170 |

Ask your salesperson or local utility for the energy rate (cost per kilo-  
watt hour) in your area.

## MANAGING ENERGY THROUGH WINDOW TREATMENTS

Heat lost through windows can cause heating costs to soar. Draperies help reduce heat gain in the summer and heat loss in winter. To be effective, draperies should:

1. Use closely woven, sturdy material for both the lining and the drapery.
2. Hang to the floor.
3. Have closed corners at the top to reduce passage of air.
4. Overlap at the center when closed.
5. Be secured to the walls at the sides.
6. Extend 10 cm (4") above, below, and beyond window sides if they cannot be sealed.
7. Be easily adjusted to admit the sun's warmth when needed.

Light colored drapery lining will reflect hot summer sunlight back toward the window which keeps the inside cooler. Specially insulated lining fabrics are available.

Draperies provide a layer of insulation in winter which helps to keep cool air and drafts away from the home interior and also prevent any easy escape of warm air to the outside. More energy can be saved by closing draperies at sunny windows in the summer and opening them in the winter. In cold weather, keep shades and drapes closed at night, on cloudy days cover windows that are not reached by direct sunlight. Window shades can prevent loss of heat through glass. The best shades are those that are quilted with fiberfill insulation and fitted as closely as possible to the glass, window frame, and rest on the window sill. Window awnings (on northern exposures only) help block heavy winds and prevent heat loss. Experimentation is now taking place to test other window covering products to save energy. For example, a special window and door screen is reported to filter out 75 percent of the sun's heat and conserve energy in the winter by reflecting indoor heat back toward the interior.

### Activity

The need to conserve energy is so great that a wide variety of window coverings have been developed. Here are a few ideas of what students can make or purchase on the market. A catalog/magazine survey might be made to determine availability, advantages, and costs of these options. Students might follow by developing a school display of options or writing an article about them for the local newspaper.

1. A fiberfilled, quilted shade with a reflective metal surface that radiates warmth back into the room.
2. Folding shutters which have a center section of insulation faced with reflective foil, between wood panels.
3. Insulating drapery with a water repellent opaque lining and a layer of polyester fiberfill.
4. A shade of interlocking slats that roll up over the window for storage, or down the side tracks right next to the window to close.
5. A translucent pop-in panel to cover skylights that admits 76 percent of outside light and helps insulate against the cold.

## SELECTING ACCESSORIES FOR THE HOME

As the body lying in bed comes in contact with fabric, heat passes from the body to the fabric which warms the surface. Therefore, napped or piled surfaces having many little spaces where trapped air can hold heat make the fabric feel warm. In the coldest weather, cotton flannel sheets, a fiberfilled bed pad, and light weight thermal blankets are recommended. If bedrooms are closed off from heat in winter, an electric blanket next to the flannel sheet, with a thermal blanket above it to hold the warmth may keep a sleeper comfortable. People should note that some electric blanket directions say "do not cover with other bedding." To prevent body heat loss, place a reflective surface either under the bed pad or between the mattress and box spring. If thermal blankets are not available, consider down and feather filled comforters, fiberfilled comforters, or lightweight wool or acrylic blankets. Even an unzipped sleeping bag, handmade afgan, or quilt can add warmth. If there are not enough blankets for a baby in the house, use a few large fluffy, terrycloth towels to keep him/her warm. With the right sleepwear and bedding materials, room temperatures can be lowered without loss of comfort.

Choices of textiles for the bathroom can affect our comfort. For example, the more moisture that can be absorbed away from the body after bathing, the less chance there is of feeling chilly. Cotton is the best fiber choice for towels because of its water absorption property. Looped terry towels absorb moisture faster than cut velvet towels.

If the bathroom is cold, consider using a rug with an absorbent terry bath mat to catch water droplets and a two layer shower curtain with an inner plastic layer. This curtain will help hold in the heat from water during showers and baths. Pile covers for the toilet seat and tank, and wall to wall carpeting in the bathroom can contribute to a cozy atmosphere. Towels and bed clothes warmed in the sun can also add to personal comfort.

### Activity

Visit local department stores to price bed coverings (flannel sheets, blankets, comforters) and bathroom accessories. Compare costs of alternatives in relation to thermal properties.

### Activity

Explore ways various home textile accessories could be hand-crafted (e.g., designing afghans from yarn remnants or quilts from fabric scraps or used clothing, bathroom rugs from carpet remnants). Compile ideas in a brochure to distribute to interested persons or make one or more items to donate to a family or individual.

## V. INTEGRATING VOLUNTARY SIMPLICITY INTO INTERPERSONAL RELATIONS

The area of interpersonal relationships provides an ideal opportunity for students to grasp the full meaning of the term "lifestyle." Once this is discussed, they can then go on to compare alternatives and to consider how they might like to live their lifestyles in years to come. Students will need encouragement to see their future family *and*, at the same time, to picture a different world from the one in which they have grown up. This is especially true because the long-term effects of all of our actions simply cannot be accurately predicted now. Several activities follow which help students explore some of these issues. One way to get students started would be to use a brainstorming idea, such as the following incomplete phrases.

### Activity

As a class, think (orally or on paper) about your future by completing the following phrases:

1. Increased communications through home televised phones, home computers, etc . . .
2. Metric system in wide use around the world . . .
3. English language accepted all over the world . . .
4. Standard of living changed . . .
5. Longer life span . . .
6. Changes in relative time spent at work and at leisure . . .
7. Better educated people . . .
8. Increased cost of coal, oil, and gas . . .
9. Greater use of open land for roads, industry, houses . . .
10. Persistence of sex and age discrimination . . .
11. Increased numbers of people in the "Sunbelt" . . .
12. Increased acid rain from factories and pollution of the air . . .

Follow-up by comparing each other's ideas.

## EXPLORING LIFESTYLES

Think of the current president and the lifestyle which he is enabled to live by fact of his job, complete with a plane, servants, etc. Compare this to the lifestyle of a person in your community who has a cottage industry, or to your own lifestyle. Each has its reasons for existence. None is "better" or "worse," just different, unless one is badly deprived of healthful living necessities. America is rich in both having various alternatives, and offering opportunities for people to change their lifestyles over the years if they so wish.

### Activity

The following list of electrical items illustrates some aspects of Americans' lifestyles. Complete the survey individually. Follow-up by discussing:

- a) which items you/your parent(s) would be willing to give up;
- b) how your feelings toward material things differ from those of your parents;
- c) other ways to obtain "good things" of life, associated with energy use.

## LIFESTYLE SURVEY FORM

Place an X in the column which best describes your feeling about giving up a particular item.

| ELECTRICAL<br>APPLIANCE OR<br>ITEM* | Do<br>Not<br>Have | Would Give Up  |                         |                          |            |
|-------------------------------------|-------------------|----------------|-------------------------|--------------------------|------------|
|                                     |                   | Very<br>Easily | With Some<br>Difficulty | With Great<br>Difficulty | Impossible |
| Radio                               |                   |                |                         |                          |            |
| Stereo                              |                   |                |                         |                          |            |
| Air conditioning (at home)          |                   |                |                         |                          |            |
| Air conditioning (at work)          |                   |                |                         |                          |            |
| Electric fan                        |                   |                |                         |                          |            |
| Clock                               |                   |                |                         |                          |            |
| Freezer                             |                   |                |                         |                          |            |
| Typewriter                          |                   |                |                         |                          |            |
| Copy machine                        |                   |                |                         |                          |            |
| Water heater                        |                   |                |                         |                          |            |
| Power tools                         |                   |                |                         |                          |            |
| Refrigerator                        |                   |                |                         |                          |            |
| Iron                                |                   |                |                         |                          |            |
| Dishwasher                          |                   |                |                         |                          |            |
| Electric mixer                      |                   |                |                         |                          |            |
| Doorbell                            |                   |                |                         |                          |            |
| Electric stove                      |                   |                |                         |                          |            |
| Hair dryer                          |                   |                |                         |                          |            |
| Elevator                            |                   |                |                         |                          |            |
| Toaster                             |                   |                |                         |                          |            |
| Electric blanket                    |                   |                |                         |                          |            |
| Garbage disposal                    |                   |                |                         |                          |            |
| Blender                             |                   |                |                         |                          |            |
| Lights                              |                   |                |                         |                          |            |
| Clothes washer                      |                   |                |                         |                          |            |
| Electric guitar                     |                   |                |                         |                          |            |
| Telephone                           |                   |                |                         |                          |            |
| Sewing machine                      |                   |                |                         |                          |            |
| Trashmaster                         |                   |                |                         |                          |            |
| Electric curlers                    |                   |                |                         |                          |            |
| Color TV                            |                   |                |                         |                          |            |
| B/W TV                              |                   |                |                         |                          |            |
| Electric toothbrush                 |                   |                |                         |                          |            |
| Clothes dryer                       |                   |                |                         |                          |            |
|                                     |                   |                |                         |                          |            |
|                                     |                   |                |                         |                          |            |
|                                     |                   |                |                         |                          |            |

\*Add any other items you may have in your home.

## CONTRIBUTING TO ONE'S COMMUNITY

The more opportunities which home economists use to illustrate civic concern, the better will be the reputation of home economics in that area. Each teacher has seemingly endless chances to take class projects out into the community. Some suggestions follow.

### Activity

As a class or HERO or FHA chapter, explore the possibilities for recycling various items in your community. Consider factors such as:

1. What can be done with the collected material?
2. How much will be paid for it?
3. Will it aid the community or individuals in any way? If so, in what ways?
4. Could we make something out of the recycled materials?
5. What existing community organization (church, store, service group) might be interested in promoting an on-going project of this type?

Then, select *one* item to recycle. (Examples include bottles, newspapers, aluminum cans, old clothes, or materials which could be re-made, and other clothing or household items.) Set up an accounting system to determine how much (number, weight, or size) of the selected material is recycled. Consider awarding a prize to the most productive recycler (or a certificate of recycling)! The recycling project could involve a single classroom or chapter, or the single classroom or chapter could design the project for participation on the part of the whole school, starting a campaign to "Defeat the Dump Monsters."

### Alternative Ideas:

If a recycling project already exists, find out:

1. Who started the project.
2. Why the project was begun.
3. How it operates.
4. What assistance students can give.

### Activity

Students might recycle objects by:

1. Sewing a "draft dodger" to put on the floor or window sill to prevent drafts, stuffing it with cat litter, sand, or old clothing.
2. Making potholders from discarded clothes.

Follow by distributing to members of the community.

### Activity

View the filmstrip, "Good Buys: Alternatives to Shopping Malls" which deals with recycling used goods, factory outlets, bartering, etc. (The Learning Seed, 1983). Follow by discussing local alternatives to shopping malls, such as second hand stores. Emphasize advantages and disadvantages of buying goods in new and different places.

## HELPING AND COOPERATING WITH OTHERS

Students need to see that helping others brings a great deal of satisfaction, with a very small use of time and effort. The habit of thoughtfulness is never "out of date"; it is timeless.

The following activity illustrates a way of extending one's desire to cooperate and help others to achieve a happier life, whether that person bears a direct relationship to oneself or not. The activity could have a completion date quite a bit later than when started, so that each student might have plenty of time to think and act, as well as record the event in a way appropriate to their needs (e.g., taping or writing.)

### Activity

Think of someone who means something to you in a special way. The person may be a relative, a neighbor, or a friend. In a real sense, that person is part of what we call, "the family of man," meaning humankind.

Think of what you could do to help this person or better cooperate with them. You might think of this act of kindness as your gift to them. It need not cost money. It could be as simple as spending some time visiting with them, if you think they are lonely; picking up trash in their yard, if it bothers them; or vowing not to argue unnecessarily with them. Record what you did, without necessarily mentioning names. Then describe their reaction and your feelings about the experience. As a class, examine the question of what each giver and receiver gained from the experience and whether such time is or is not time well spent on humankind.

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## Resources

### Films/Filmstrips

#### Diet for a Small Planet

This film questions the ethical nature of a meat-based diet and explains how protein substitutes can be used to meet protein needs. Date: 1973

Time: 28 minutes  
Cost: \$30/rental  
From: Bullfrog Films  
Oley, PA 19547

#### Energy, A Matter of Choices

This is an excellent film which focuses on the storage of electrical power, examines the social attitudes and technological forces which have led to the energy crisis, and suggests alternatives which could overcome the crisis. Date: 1973

Time: 22 minutes  
Cost: \$290/purchase  
\$ 17/rental  
From: Encyclopedia Britannica  
Edition Corp.  
425 N. Michigan Ave.  
Chicago, IL 60611

#### Energy Sources of the Future

Focuses on new trends and ideas for the production of energy: extraction of oil from shale, gasification of underground coal, production of energy by nuclear fission and fusion, use of solar heat, and control of the power of tides. Date: 1968

Time: 15 minutes  
Cost: \$255/purchase  
\$ 22/rental  
From: CRM/McGraw-Hill Films  
110 Fifteenth St.  
Del Mar, CA 92014

#### Good Buys: Alternatives to Shopping Malls

This two-part filmstrip explores alternatives to shopping centers such as recycling used goods, the legal "underground" economy of sharing and re-use, factory outlets, bartering, and even an occasional decision not to buy at all. Date: 1983

Time: 20 minutes/each  
Cost: \$62/two  
From: The Learning Seed  
21250 N. Andover Road  
Kildeer, IL. 60047

#### Living the Good Life

An elderly couple live an alternative lifestyle. At 74 and 93 Helen and Scott Nearing are self-sufficient, involved, balanced, and healthy. Date: 1977

Time: 30 minutes  
Cost: \$35/rental  
From: Bullfrog Films  
Oley, PA 19547

#### Population and the American Future

Reports on the President's Commission on Population, Growth and the American Future's findings on the economic, social, political, environmental, and ethical aspects of past and present trends and future population growth in the United States. Date: 1973

Time: Part 1-30 minutes  
Part 2-30 minutes  
Cost: \$255/purchase  
\$ 30/rental  
From: Craig B. Fisher  
365 A East 50th St.  
New York, NY 10022

#### Toast

This is an excellent film that examines the totality of energy from source to utilization, or waste in this case, of energy. Shows, as an example, the tremendous amount of energy necessary to grow, produce, and distribute a piece of bread which ultimately ends up as burnt toast and is then discarded. Date: 1978

Time: 12 minutes  
Cost: \$180/purchase  
\$ 18/rental  
From: Bullfrog Films  
Oley, PA 19457

## Magazines, Pamphlets, and Guides

- Catalyst of Environmental Energy*, 274 Madison Avenue, New York, NY 10016. Published four times a year.
- Clinard, L.A., et al. *Energy guide for secondary home economics classes*. Energy, Environment and Resources Center, The University of Tennessee, Knoxville, TN 37916, 1980.
- Connections: A curriculum in appropriate technology for the fifth and sixth grades*. National Center for Appropriate Technology, Box 3838, Butte, MT 59701, 1980.
- J.C. Penney Company. New Perspectives on changing roles. *Forum*, Spring/Summer, 1979.
- Voluntary simplicity: A lifestyle alternative. *Forum*, November 1983.
- Low energy technology*. Department of Agriculture and Extension Education, University of Florida, Gainesville, 1980.
- National Geographic Society. *Energy, facing up to the problem, getting down to solutions: A special report in the public interest*. Washington, D.C. (Department 5000, 20036), February, 1981.
- Passive design ideas for the energy conscious consumer*. National Solar Heating and Cooling Information Center, P.O. Box 1607, Rockville, MD 20850, 1980.
- Pestle, R.E. *Integrating voluntary simplicity of lifestyle into home economics*. Tallahassee, FL: State of Florida Department of Education, 1981.
- Sears Educators Resource Series. *Energy/ecology/economics*. Consumer Information Services. Sears, Roebuck, and Co. D/703. Sears Tower, Chicago, IL 60684, 1980.
- United States Environmental Protection Agency. *Acid rain*. Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402, 1980. (#055-000-001987).
- ... *Is your drinking water safe?* Office of Public Affairs (A-107), Washington, D.C. 20460, March, 1977.

## Vegetarian Cookbooks

- Barkas, J.L. *The vegetable passion*. New York, NY: Scribner, 1975.
- Benjamin, A. and Corrigan, H. *Cooking with conscience*. New York, NY: The Seabury Press, 1978.
- Berg, S. *The vegetarian gourmet*. New York, NY: Herder & Herder, 1971.
- Dalsass, D. *The vegetarian cookery*. Chicago, IL: Contemporary Books, 1981.
- Grehol, D. *Vegetarianism, A way of life*. New York, NY: Harper & Row, 1979.
- Hartbarger, J.C. *Eating for the eighties*. Philadelphia, PA: Saunders Press, 1981.
- Lappe, F.M. *Diet for a small planet*. New York, NY: Ballantine Books, 1971.
- Robertson, L., Flinders, C., and Godfrey, B. *Laurel's kitchen*. New York, NY: Bantam Books, 1976.

## Organizations

- The Izaak Walton League of America, 1800 Kent Street, Arlington, VA 22209. Very interested in clean water.
- Citizens Clearinghouse on Hazardous Waste, P.O. Box 7097, Arlington, VA 22207. Concerned with disposal of hazardous waste.
- Sierra Club, 530 Bush Street, San Francisco, CA 94108. Focuses on environmental protection.
- World Future Society, 4619 St. Elmo Ave, Bethesda, MD 20814-5089. Publishes *The Futurist*.